deaths attributable to AAA in Italy represented 28.0% of the 5EU total, despite Italy accounting for only 19.3% of the 5EU population in 2013. **CONCLUSIONS:** Our study reveals that the burden of AAA among the 5EU markets is most severe in Italy, which accounted for the highest number of both prevalent cases and deaths attributable to AAA in the 5EU. Throughout the 5EU, females accounted for a disproportionately high percentage of deaths despite constituting a low percentage of prevalent cases. Consequently, current screening guidelines should target both sexes, rather than males only.

PRM71

COST-EFFECTIVENESS OF ESCALATING TO NATALIZUMAB OR SWITCHING AMONG IMMUNOMODULATORS IN RELAPSING-REMITTING MULTIPLE SCLEROSIS IN ITALY

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OBJECTIVES: Published literature suggests that treatment escalation to natalizumab, in relapsing-remitting multiple sclerosis (RRMS) patients with inadequate response to first-line injectable treatments, is clinically more effective than switching among immunomodulators. This analysis evaluates the cost-effectiveness of escalation vs. switching, adopting the Italian social perspective. **METHODS:** A lifetime horizon Markov model compared early escalation to natalizumab vs. switching among immunomodulators (interferons or glatiramer acetate) followed by escalation to natalizumab, in a cohort of patients who failed a first-line therapy. Specifically the two compared treatment algorithms were: a) escalation until progression of Expanded Disability Status Scale (EDSS) score of 7.0; b) switching until EDSS=4.0, followed by escalation until EDSS=7.0. For the two options, the model analyzed social costs and quality adjusted survival (QALYs). The model captured the effects of therapies in prolonging time without disability progression and burden of relapses. Clinical data was derived from a published study comparing the two treatment strategies. Unit tariffs and costs were adapted to the Italian setting. **RESULTS:** Early escalation to natalizumab was dominant over switching among immunomodulators. The two options led to similar costs (€1.008 mln/patient in the escalation group, vs. €1.034 mln/patient in the switching group), but early escalation was associated to prolonged quality adjusted survival (11.54 vs. 9.94 QALYs; +16.05%). A slight overall survival increase was also observed (21.14 vs. 20.80 life years). The increased acquisition costs related to prolonged treatment with natalizumab were offset by savings due to decreased burden of relapses and a reduction of disability-related costs. **CONCLUSIONS:** Early escalation to natalizumab is a cost-effective option in RRMS patients who don't adequately respond to conventional immunomodulators compared to switching among immunomodulators and escalation later. This shows that patients benefit from early escalation to natalizumab and prolonging immunomodulation, using therapies with similar mechanisms of action, could determine inappropriate usage of economic resources and poor benefit for patients.

PRM72

CONTRASTING PREDICTIONS OF CARDIOVASCULAR INCIDENCE DERIVED FROM ALTERNATIVE RISK PREDICTION MODELS IN TYPE 1 DIABETES

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OBJECTIVES: Cardiovascular disease (CVD) risk prediction models are available for the general population (Framingham) and for type-2-diabetes (T2D) (UKPDS 68 and 82) but may not be appropriate in type-1-diabetes (T1D). The IMS CORE Diabetes Model (CDM) uses Framingham and UKPDS risk equations (REs) to predict CVD incidence in T2D and has recently been updated to include two CVD risk prediction approaches specific to T1D populations based on data from the Epidemiology-of-Diabetes-Interventions-and-Complications-study (EDIC) and a novel RE from the Pittsburgh-Epidemiology-of-Diabetes-Complications-Study (PEDC). The objective of this study was to compare CVD incidence across T1D model projections utilizing UKPDS, EDIC and PEDC REs and compare these to published EDIC findings. **METHODS:** The CDM was applied to project the incidence of myocardial-infarction (MI), stroke, heart-failure (HF) and ischemic-heart-disease (IHD) utilizing three alternative CVD REs, the UKPDS 68 RE (UK68-RE), EDIC-RE and PEDC-RE. The risk profile of a newly diagnosed T1D population (age 21 years, HbA1c 7%, systolic-blood-pressure 114 mmHg, body-mass-index 32 Kg/m2, high-density-lipoprotein 45 mg/dl and total-cholesterol 170 mg/dl) was projected over 30 years. The incidence of total CVD was estimated as the sum of the individual composites (%CVD=%MI+%stroke+IHD+HF) to enable comparison to published EDIC findings. **RESULTS:** When UK68-REs were applied, the 30-year cumulative incidence of CVD for a newly diagnosed T1D individual was projected at 2.66%, 0.27%, 3.88% and 0.72% for MI, stroke, IHD and HF, respectively. This compared to 4.10%, 0.66%, 3.36 and 0.58% utilizing EDIC-RE and 5.27%, 1.01%, 3.44 and 1.18% utilizing PEDC-RE. Total predicted CVD incidence added up to 7.53%, 8.70% and 10.90% for UK68-RE, EDIC-RE and PEDC-RE respectively, which compares to 8.70% incidence of CVD as observed during the EDIC study. **CONCLUSIONS:** As expected, the CDM reproduced the published EDIC CVD incidence when using the EDIC approach but demonstrated a slight underestimation utilizing UK68-RE and overestimation with PEDC-RE.

PRM73

VALIDATION OF A MARKOV MODEL FOR ECONOMIC EVALUATION OF SCREENING AND PREVENTIVE INTERVENTIONS IN ALZHEIMER'S DISEASE IN DENMARK

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OBJECTIVES: Alzheimer's disease (AD) afflicts up to 9% of people aged 65 and over worldwide, with prevalence projected to increase. AD is associated with reduced quality of life and high treatment and management costs. A number of recently developed screening and preventative interventions offer reduction in resource use and improvement in quality of life for AD patients. The majority of existing models for economic evaluation of AD interventions focus on pharmaceuticals and due to their limited scope and time-horizon are unsuitable for evaluation of screening and preventative strategies. It is proposed to develop a decision model to ascertain the most cost-effective 'mix' of preventative and screening methods for Denmark. The objective of this study is to develop and validate such a model for economic evaluation of non-pharmaceutical interventions for AD **METHODS:** A Markov model was developed, representing transitions of a hypothetical cohort of 65 year olds from 'no AD' to different stages of AD (Very Mild through to Severe). AD could either be 'identified' or 'not identified' to reflect the difference in costs associated with treatment and management. Due to absence of Danish data, the model utilised transition probabilities based on US data; AD-associated costs and utilities were obtained from Danish and Swedish data, respectively. The model was externally validated against an epidemiological study of AD in Denmark to predict prevalence and stage of AD by age. **RESULTS:** The model accurately predicted Danish age-specific prevalence of AD, although the prevalence for the 75-79 age group was overestimated by 3%. The model also produced accurate predictions of the distribution of AD severity. **CONCLUSIONS:** The model provides a simple and robust framework for economic evaluation of screening and other non-pharmaceutical interventions for AD. The lack of up to date epidemiological data on AD is a challenge for model validation and introduces uncertainty.

PRM74

CONTRASTING MODEL PREDICTED LIFE EXPECTANCY IN PATIENTS WITH TYPE 2 DIABETES ACROSS DIFFERENT MORTALITY RISK PREDICTION MODELS VERSUS DATA FROM THE CANADIAN CHRONIC DISEASE SURVEILLANCE SYSTEM

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OBJECTIVES: Diabetes is known to be associated with a considerable decline in life expectancy (LE). The aim of this study was to use a modelling approach to assess LE in low, intermediate and high-risk type-2-diabetes (T2D) populations and to compare these to observations from the Canadian-Chronic-Disease-Surveillance-System (CCDSS). **METHODS:** This study used the IMS-Core-Diabetes-Model (CDM), a validated diabetes simulation model, to project the LE of T2D individuals with a low-risk (age=55, diabetes duration=5, no CVD history), intermediate-risk (age=65, diabetes duration=15, moderate CVD history) and high-risk profile (age=80, diabetes duration=30, advanced CVD history). LE was predicted utilising three alternative mortality risk prediction models (RPMs) from the UKPDS 68 study (UK68), the UKPDS 82 study (UK82) and a risk equation based on Western Australia (WA) administrative data. Life-years-lost (LYL) in diabetes vs. no-diabetes populations was estimated based on the difference in age matching LE obtained from UK-national-life-tables subtracted by CDM projected-LE. Results were finally contrasted to LE and LYL estimations from the CCDSS study. **RESULTS:** When UK68 mortality RPMs were applied, LE projected was 23.29, 15.94 and 7.78 years for the low, intermediate and high risk cohort. This compared to 22.16, 14.88 and 7.29 years utilising UK82 RPMs and 25.94, 18.11 and 9.05years when utilising the WA RPMs. Based on UK life table data, LYL in diabetes vs. no-diabetes populations were 4.76, 3.61 and 1.11 (UK68), 5.89, 4.67 and 1.60 (UK82) and 2.11, 1.44 and -0.15 (WA) years. The CCDSS study reported outcomes for the low risk (age 55) and high risk (age 80) profile at 24.5 and 8.3 years (LE) and 5.5 and 2.25 years (LYL), respectively. **CONCLUSIONS:** UKPDS based models predicted LE and LYL very closely to CCDSS study findings. The Western Australian RPM seems not to be applicable to a UK and Canadian population.

PRM75

THE EFFICIENCY PATH: AN ESTIMATION OF COST-EFFECTIVENESS THRESHOLDS FOR 185 COUNTRIES BASED ON PER CAPITA HEALTH EXPENDITURES AND LIFE EXPECTANCY

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OBJECTIVES: Cost-effectiveness (CE) is increasingly used for resource allocation worldwide. One key hurdle for its widespread use is the lack of a widely accepted methodology to derive thresholds at the healthcare system (HS) or country level. The objective is to propose a methodology and derive local CE thresholds based on per capita health expenditures (pcHE) and life expectancy (LE). **METHODS:** Our approach is based on the relationship between pcHE and LE; assuming that the increase in expenditures reflects the CE of the interventions added to reach current LE. For HS willing to maintain or increase their secular trend of raising pcHE in order to improve health, the threshold (measured in units of pcHE) will be: Threshold=(LE+1)*i-LE; where LE is measured in life-years (LY) or QALYs; and "i" is the ratio of increase in pcHE that the HS is willing to accept to increase LE by one unit (eg i=1.09 for a 9% increase). For HS with cost-containment mandates: Threshold=LE-((LE-1)/i), where "i" represents the past increase in pcHE to gain the last unit of LE. We used OLS to predict "i" for 185 countries, following both a cross-sectional (2013) and a longitudinal approach (2003-2013) using World Bank data. **RESULTS:** Depending on income strata and LE, countries can expect to increase pcHE by 7-10% for an additional LY and between 10-13% for an additional QALY. This represent cost per QALY thresholds ranging from 9-11 pcHE in High-Income to 5-8 in Low-Income countries, which translates to thresholds of 32-40 thousands US dollars in UK; 83-101 in USA; 6-7 in Mexico and 0.5 in Uganda (around 0.9, 1.8, 0.6 and 0.7 GDP per capita respectively). **CONCLUSIONS:** This approach, based on widely available data, can be useful to inform decisions in all countries using economic evaluations. Our results show thresholds usually lower than those promoted by WHO.